

In Regards to Notice of Proposed Rule Making
ET Dockets 03-104 & 04-37

To Whom It May Concern:

I am writing with respect to the above noted NPRM, regarding proposed changes to FCC Rules regarding Broadband Over Power Line (BPL) systems.

In brief:

I believe that the proposed changes are at best premature, and that none of the changes proposed should be implemented at this time.

I have no objection per se to the concept of providing broadband access via the power grid in one form or another. I am concerned that the systems currently under testing and development are not sufficiently evolved to the point where they can co-exist with existing communications users.

BPL systems are being touted as being an inexpensive, and possibly only, method to providing broadband in rural areas where current closed-system technologies (such as cable broadband access and various forms of Digital Subscriber Line (DSL) via the telephone system) are unavailable or too costly to implement. Yet few if any of these systems are being tested in the areas that we have been promised they are meant to serve, so there is no way to tell what the true costs and/or technical challenges will be. Further, a representative for at least one system being tested has denied in public that BPL is actually intended for use in rural areas (see Addendum 1 following this comment).

BPL systems are being tested in areas that have a low concentration of communications users, if any, including but not limited to Amateur Radio, Citizen's Radio, Emergency services workers (ie volunteer fire, paramedics, Civil Air Patrol, etc.) and other radio services. So we have no true way of knowing at present how, in the long term, proposed BPL systems can co-exist with existing licensed and unlicensed communications services. In those few cases where these communications users have become aware of BPL tests, interference has been noted of sufficient strength as to detrimentally affect these communications services. There has not been sufficient time to determine how the BPL systems can be modified, if they can be modified at all, to prevent such interference. Yet the FCC and potential BPL providers are asking that the rules be modified to "ease the burden" on BPL services by not requiring them to strenuously prevent such problems, or not even prevent them at all. The time to fix this problem should be now, during the testing phases, not after it has been implemented. So why hasn't it been fixed?

The NTIA has just in the last week released a report (NTIA Report 04-413), and analysis of over 10 million BPL system measurements, that, when examined in detail, casts serious technical doubt on whether or not BPL systems can ever be made to work without significantly affecting communications. This report needs to be fully evaluated by the Commission before any rules changes should

be proposed, let alone made. Changing the rules at this time, in light of this report, is extremely premature.

Last year, when the American Radio Relay League petitioned for access to the so-called 1750 Meter Band by the Amateur Service, the largest objections came from electric power providers who expressed concern that the power grid would be affected by operations on these bands because the grid, not designed to act as a mass communications media, was susceptible to interference from "high" powered (100 watts or less) transmitters. If the very nature of the grid is to act as an antenna, and can not be shielded from communications transmitters, how can BPL avoid causing interference to communications running on the same frequencies? And how can BPL not be susceptible to interference from other communications? Under current Part 15 rules, BPL services must not cause interference and must accept interference from other services holding primary status on these frequencies. Relaxing in any way this section of the rules will only guarantee that BPL providers can wash their hands of interference problems affecting or affected by BPL, without giving them any means or incentive to fix the problems. This can not possibly be considered acceptable by any current user(s) of the spectrum that BPL systems propose to use.

I am aware that many, if not most, of the Commissioners have publicly stated in speeches before many groups that they are in favor of this technology. I am aware that President George W. Bush has also come out in favor of it in a speech last week. This brings into serious question how impartial the Commission will be in evaluating rules changes for technologies that they so openly favor. I would hope that the Commission can be in favor of the concept, but not to the point of giving free and unfettered reigns to seriously flawed communications systems.

In summary:

BPL remains an experimental system that may never be mature enough to warrant changes in the FCC rules. As such, any changes in the rules for any political or otherwise non-technical reasons are premature and should not be adopted at this time.

Thank you for your attention.

Sincerely,

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Addendum #1:

Report on the Penn Yan, NY BPL Trial
Dave Hallidy K2DH courtesy of Brian Carling AF4K and Tom Jennings KV2X

I visited Penn Yan, NY again last night (Tuesday, April 20th), at the invitation of the Yates Amateur Radio Club. It was their monthly meeting, and the topic was the BPL trial currently being

run in the city of Penn Yan.

The primary speaker was Rick Ayers KB2DMK, a Penn Yan local who had been involved in the testing, both pre- and post-deployment, to measure any interference. Rick's report of his findings will be available later, possibly as early as late today. Also speaking at the meeting were Dave Simmons KB2ITN (the ham who was quoted in the Wall Street Journal article on March 23rd as being satisfied that there was no problem with interference in Penn Yan), and a representative of DVI- Data Ventures Inc (the service provider in Penn Yan) named John Loew (or Low, or Lowe - he never gave me his card or spelled his name). John's responsibility at DVI is business development, he is not a technical person.

When my wife and I got to Penn Yan, we had the receiver on in the truck, and could, as we expected, detect the BPL interference just as it had been on my previous visit- over S9 on 24.9MHz as I drove to the meeting location (a church near the trial area).

It should be noted here that Simmons and Loew arrived at the meeting at least 20 minutes late, together, and came in during Ayers presentation.

Ayers explained how he measured the interference, how he had gone to Allentown, PA (unannounced) to measure it there and get a comparison to the levels seen in Penn Yan, and that, after all his work was completed, he concluded that there was a serious interference problem in Penn Yan. Rick was asked questions by a number of the members present, and did his best to answer them all. He then turned the meeting over to Loew and Simmons, who basically stated that they were

confident that the new "notching technique" from Amperion would solve all of the interference issues. Several people asked them questions, including me - I asked Loew why there was no experimental license for the Penn Yan trial, and he said he had been concerned about that, but that it was an Amperion question - I agreed. I also asked if the Amperion boxes had Part 15 compliance stickers on them, and if so, where they were located. Loew and Simmons replied that they thought so, but weren't sure where they would be, probably on the inside. I reminded them that FCC states that the stickers must be in a "conspicuous location" and that inside the box wasn't such a location. Loew stated that the people should not be concerned, they (DVI) were committed to an interference-free system in Penn Yan.

He was then asked what people could do if they felt they needed to complain to DVI about interference so that it could get taken care of. His reply was, "You can call the Operations Center." When asked for the phone number, he replied, "I don't have it- call me instead." and GAVE US HIS CELL PHONE NUMBER! I asked him how the company expected to make any money supplying this service to the rural customers (there were a number of people from well outside the city present), and his reply was "WE NEVER STATED THAT WE WOULD BE SUPPLYING BPL TO THE FARMERS SPREAD MILES APART- WE'RE DEPLOYING THE SERVICE IN SMALL CITIES AND TOWNS." I then reminded him of FCC Chairman Powell's statement when the NPRM was released "I am optimistic and welcome the day when every electrical outlet will have the potential to offer high-speed broadband and a plethora of high-tech applications to all Americans." His comment was (this is beautiful!) "I read Chairman Powell's statements every day- he never said that."

Several members then started asking me questions (they had been to

our club's website and heard the recording there), and I did my best to answer them. My main point in being there was to make sure that these people, if they had experienced interference, would lodge complaints to the FCC, and to make sure that they understood the importance of commenting on the NPRM. So my thrust was there. But I did offer to let anyone who hadn't heard the interference yet, come out to my truck after the meeting and I'd give them a demo.

At this point, the topic had been pretty well covered, so the meeting officially ended. I asked for their business cards, Simmons gave me his, but Loew "Didn't have any." I gave them mine. Simmons and Loew got up to leave, but Simmons was cornered by several members who wanted to ask more questions. Loew quietly slipped out the door. Ayers and I answered a few more questions, then it was time to go.

We went outside and those that were left wanted to see my mobile setup and hear the interference. Guess what? IT WAS GONE!!! THE SYSTEM HAD BEEN SHUT DOWN, either in the time before Simmons and Loew got to the meeting (maybe why they were late), or when Loew slipped out the door at the end. Everything was gone, completely. Interestingly, this explains why I got an email from a ham who went to Penn Yan last Saturday (4/17) and found nothing, yet another person (this one from Harris Corp) was there on the same day and heard everything just as I had reported it. I think this action speaks even louder than the interference about just what is going on here, and does not present the BPL providers in a positive light at all.

I was able to convince several people to lodge formal complaints to the FCC about the interference they had experienced, and I believe they will.

I'm sure there's more to come from this.

Addendum #2:

NC Utility Draws "A Line In The Sand"

An electric utility testing broadband over power line (BPL) systems in the Raleigh, North Carolina, area has drawn a virtual line in the sand on how far it plans to go to mitigate interference to Amateur Radio. Responding to the FCC about BPL interference complaints from hams, Progress Energy Corp (PEC) told the FCC that his company has eliminated any harmful interference from its BPL trial site and now complies with FCC rules.

"It is PEC's position and interpretation of the FCC's rules with regard to

'harmful interference' that any interference that may still exist is not 'harmful' as that term is defined by the FCC's rules," Len Anthony, PEC's attorney for regulatory affairs, told James Burtles, chief of the FCC's Experimental License Branch. "This level of interference does not seriously degrade ham radio operation or transmissions or cause repeated interruptions." Some, but not all, of PEC's BPL field trials are covered by an FCC Part 5 experimental license.

The FCC defines as "harmful" any interference that "seriously degrades, obstructs or repeatedly interrupts a radiocommunication service operating

in accordance with the Radio Regulations."

Anthony claimed that since PEC can modify its Amperion BPL system to totally eliminate interference to fixed stations, "the only impact of any kind upon ham operations is upon mobile operators." PEC concluded that since BPL interference to mobiles would be "very short lived," the company is not causing harmful interference and is in "full compliance" with FCC Part 15 rules.

ARRL North Carolina Public Information Officer Gary Pearce, KN4AQ, suggests PEC has a bit more work to do. He is among local amateurs closely

monitoring BPL deployment in the test zones and cooperating with PEC and

Amperion to work out any interference issues. Pearce says interference

remains on the top end of 20 meters in an overhead-line field trial neighborhood where PEC recently had tweaked its system.

"Nothing had changed," he told ARRL after visiting the neighborhood in the

wake of Anthony's e-mail. "They were still covering up the top end of the

20-meter band." Interference to 17 and 12 meters had been notched out, but

beyond that, BPL interference persisted from 14.290 to nearly 17 MHz, he

said, and "fringe" carriers still encroached some 100 kHz into the bottom

of 15 meters. Interference had not been mitigated at all in neighborhoods

with underground power service, he said.

Progress Energy has been operating its "Phase II" trial in three neighborhoods south of Raleigh since early January. The area, in Wake County, is largely rural or lightly settled.

No hams live in the underground-wired neighborhood, so none complained,

Pearce said. The handful of BPL interference complaints eventually lodged

with the FCC came from amateurs living closer to the overhead-wired neighborhood, and some were from mobile operators.

Pearce said PEC's stance regarding mobile stations "sets a new bar" in

interpreting harmful interference. "Hams have never been asked to accept that level of interference before," he said, noting that mobiles driving by a power line can hear the signal for "a mile or so."

Pearce says the North Carolina hams will respond to Progress Energy and

the FCC to disagree with its interpretation of "harmful interference" and its conclusion regarding interference to mobiles.

-excerpted from the ARRL Letter for April 24th
courtesy of the American Radio Relay League